



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,129	04/19/2004	Herbert D. Stroud JR.	3226/2	2315

7590 07/27/2007
Adams Evans P.A.
2180 Two Wachovia center
301 S. Tryon Street
Charlotte, NC 28282

EXAMINER

FELTON, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

1731

MAIL DATE	DELIVERY MODE
-----------	---------------

07/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/827,129	Applicant(s) STROUD ET AL.	
	Examiner Michael J. Felton	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection. The arguments over the prior art depend on amendments made that fail to comply with the written description requirement, and as such, do not define the instant claims over the prior art.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-24 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
4. Claim 1 recites the limitation "wherein the fibers are crimped at a rate of at least one crimp per centimeter;". There is no indication of this requirement in the specification.
5. Claim 2 recites the limitation "wherein the waste cellulose acetate fiber contains substantial crimp in the range of 1 to 20 crimps per centimeter." Although the specification does disclose crimping in this range (paragraph 0025), the specification

Art Unit: 1731

indicates that the shredded waste cellulose has this particular crimping and that it is produced based on the initial crimping of the waste cellulose acetate fibers AND the shredding of these fibers. Therefore, the specification does not support the claim that the waste cellulose acetate fiber has the stated crimp.

6. Claim 3 recites, "wherein the process does not include hydrolysis". There is no indication in the specification that the applicant's process specifically excludes hydrolysis. Although the applicant indicates that support can be found in paragraphs 0022 and 0029, the examiner could not find reference to hydrolysis in these paragraphs, but that paragraph 0009 discusses prior art that performs hydrolysis but does not indicate whether or not the instant process performs hydrolysis, or whether hydrolysis is desirable.

7. Claim 10 recites, "hammer milling the paper web into individually shredded fibers". Although hammer milling is disclosed in the specification, the process of hammer milling the paper web until the web has decomposed into individually shredded fibers is not disclosed.

8. Claim 13 recites, "wherein the step of mechanically shredding the waste cellulose acetate comprises shredding the acetate fibers no more than once". There is no disclosure of limiting the waste cellulose acetate fibers to one shredding only.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1731

10. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claims 13 and 14 recite the limitation "'the acetate fibers". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5662773 to Frederick, et al. in view of US 5573640 to Frederick, et al.

14. Regarding claim 1, US 5662773 discloses the use of long cellulose acetate fibers, often from waste cellulose acetate from making cigarette filters, followed by mechanical shredding (col. 2, 40-53). The resulting short cellulose acetate fibers can then be pulped with cellulose and made into paper (col. 2, lines 54-57). Although US 5662773 does not disclose the final size of the cellulose acetate fibers, US 5573640 discloses using cellulose acetate shredded to lengths between 1/8 inch and 3/4 inch (3.175 mm and 19.05), and preferably 1/4 inch (6.35 mm). Both 5662773 and 5573640 disclose that shorter fibers are necessary to make cellulose acetate with compatible with papermaking processes. It would have been obvious to one of ordinary skill in the art at the time of invention, to combine the shredding and papermaking methods of US 5662773 with the specific lengths of fiber described by US 5573640.

Art Unit: 1731

15. US 5662773 does not disclose the crimp rate of the starting material, but does indicate that the material can be obtained from the waste from cigarette filter manufacturing. The cellulose acetate in cigarette filters is typically crimped, and Hackney et al. disclose that cellulose acetate used in filters has about 9 crimps per inch (~3.54 crimps per centimeter; col. 3, 35-45). It would have been obvious to one of ordinary skill in the art at the time of invention that the material of Hackney et al. could be used to supply the process of Frederick (5662773).

16. Regarding claim 13, US 5662773 discloses shredding the cellulose acetate fibers more than once, or shredding them once in a device with multiple passes (col. 2, 40-53). The examiner interprets the second option, in light of the applicants specification (page 5, paragraph 0025), a single shredding stage with multiple passes to be shredding the cellulose acetate only once.

17. Claim 2, 3, 4, 5, 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5662773 to Frederick, et al. and US 5573640 to Frederick, et al., in view of 2090669 to Dreyfus et al.

18. Regarding applicant claim 2, Dreyfus discloses a method of imparting a crimp in cellulose acetate fibers. It is widely known in the art that crimping cellulose acetate is extremely common and that crimping would be used in making cigarette filter material. It would have been obvious to one of ordinary skill in the art at the time of invention that the waste cellulose acetate fiber would be crimped.

19. Regarding applicant claim 3, US 5662773 to Frederick, et al. discloses shredding cellulose acetate to make into paper using one or more mechanical shredders.

Although Frederick, et al. do not discuss the impact of the shredder on the crimp of the cellulose acetate, it would have been obvious to one of ordinary skill in the art at the time of invention, that mechanical shredding would inherently impart a crimp onto the cellulose acetate.

20. Regarding applicant claim 4, US 5662773 to Frederick, et al. discloses the use of long cellulose acetate fibers, followed by mechanical shredding (col. 2, 40-53). The resulting short cellulose acetate fibers can then be pulped with cellulose and made into paper (col. 2, lines 54-57). Although Frederick, et al. do not disclose that the cellulose acetate and cellulose used to make the paper is pulped with water, pulping is widely employed in paper making and it would have been obvious to one of ordinary skill in the art to combine the teaching of Frederick, et al. with the common knowledge that cellulose is pulped immediately before making paper.

21. Regarding applicant claim 5, US 5662773 to Frederick, et al. discloses, "repulping is preferably conducted in a high shear device. The paper industry uses several types of high shear repulping devices that could be used." It would have been obvious to one of ordinary skill in the art at the time of invention to use a high shear device in repulping.

22. Regarding applicant claim 6, US 5573640 to Frederick, et al. discloses that reduction in length of fibers is achieved through confrication or refining step of the process used to prepare the paper (col. 2, 58-60). It would have been obvious to one of

ordinary skill in the art at the time of invention to confricate or refine the fibers during manufacture of the paper.

23. Regarding applicant claim 7, US 5662773 to Frederick, et al. discloses the use of long cellulose acetate fibers, followed by mechanical shredding (col. 2, 40-53). The resulting short cellulose acetate fibers can then be pulped with cellulose and made into paper (col. 2, lines 54-57). Although Frederick, et al. do not disclose adding sizing and fillers to the paper, it is notoriously well known to add these treatments and components during paper production. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to add sizing and fillers to paper during production.

24. Regarding applicant claim 8, US 5573640 to Frederick, et al. discloses that when adding cellulose acetate to cellulose to make paper, only 1-10% of cellulose acetate by weight can be added before significant linting occurs during the printing process. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to limit the amount of cellulose acetate to 10% or less.

25. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5662773 to Frederick, et al., US 5573640 to Frederick, et al., and US 2090669 to Dreyfus et al., in further view of US 5967149 to Tsugaya, et al.

26. Regarding claim 9, Tsugaya, et al. disclose making cigarette filter and filter tips of paper made of cellulose and cellulose acetate and indicate one embodiment a paper web with a weight of 30.5 grams/meter². Although Tsugaya et al. employ uncrimped cellulose acetate, it would have been obvious to one of ordinary skill in the art to

Art Unit: 1731

combine the prior art disclosed in the above rejections with Tsugaya et al. It is also notoriously well known that cellulose acetate is used as a filter material for cigarettes and Tsugaya et al. illustrate that cellulose acetate can be combined with cellulose to form a paper for this purpose.

27. Regarding claim 14, the inventions of Frederick et al. do not disclose the use of a plasticizer, however, Tsugaya et al. disclose that plasticizers are commonly used in cellulose acetate filters (col. 1, 15-23). It would have been obvious to one of ordinary skill in the art at the time of invention that cellulose acetate waste from making cigarette filters could contain plasticizers because they are common ingredients in cigarette filters. The motivation, adding plasticizer to increase fusion between fibers, is also provided by Tsugaya et al.

28. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5662773 to Frederick, et al., US 5573640 to Frederick, et al., and US 2090669 to Dreyfus et al., in further view of US 3617439 Chapman, Jr., and US 2774126 A to Secrist. Frederick, et al. disclose adding waste cellulose acetate to cellulose pulp for making paper but does not specifically point out making heavy paper or diapers from this paper. Chapman, Jr. discloses comminuting pulp sheets (paper) that have a basis weight of 200 lbs. Per ream of 500 sheets measuring 19 inches by 24 inches (~619 grams per meter²)(col. 3, 52-59). Chapman, Jr. also discloses that, "While the present process and resultant products are primarily described in terms of wood fiber absorbent pads, it is specifically noted that the attendant benefits will accrue to comminution pulp

Art Unit: 1731

sheets prepared from other cellulosic fibers or admixtures of other cellulosic fibers with wood fibers," (col. 2, 51-56). It is also known in the art to add cellulose acetate to absorbent products, such as taught in Secrist. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use cellulose and cellulose acetate together in a paper product used for diapers and other absorbent products.

29. Claim 11 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsumura (U.S. 5,979,460).

Matsumura teaches a cigarette filter composed of paper-like material made of cellulose and cellulose acetate, with a basis weight of 20 to 35 grams per square meter (see abstract, col. 12, 35-55, and example 9). The steps laid out in claim 9, from which claim 11 depends, do not add patentable details to this invention, as not structural characteristics are associated with the steps. As such, this is a "product by process" claim.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), (MPEP 2113).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an

Art Unit: 1731

unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) ...

30. Claim 12 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Broughton et al. (U.S. 5,695,486). Broughton et al teach making absorbent materials for disposable personal hygiene products, composed of cellulose and cellulose acetate fibers with a basis weight of between 150 and 1000 grams per square meter (see Broughton et al., claim 9). The steps laid out in claim 10, from which claim 12 depends, do not add patentable details to this invention, as not structural characteristics are associated with the steps. As such, this is a "product by process" claim.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), (MPEP 2113).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) ...

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJF


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700